

Thermo Scientific E-CFEG Enables Accelerated Cryo-EM Discovery with High Resolution Data

A value-add for Krios Cryo-TEM, this new electron source works as part of four major components to push contrast, resolution, and speed to industry-leading levels

HILLSBORO, Ore., April 30, 2021 /PRNewswire/ -- Thermo Fisher Scientific, the world leader in serving science, today launched the Thermo Scientific E-CFEG, the company's new cold field emission gun and a value-added component for the Thermo Scientific Krios Cryo-TEM. Together, as part of four major components, the E-CFEG enables record-breaking resolution levels for single particle analysis (SPA) compared to other commercially available solutions.

Using cryo-EM, biologists can unravel 3D structures of proteins not easily crystalized for X-ray diffraction (XRD) or used for Nuclear Magnetic Resonance (NMR) experiments. One of four components designed to spur the next wave of atomic resolution cryo-EM, the E-CFEG makes it possible to efficiently solve structures at resolutions of at least 2.0 Ångstrom for standard samples. Such an advancement also allows for increased productivity compared to existing solutions.

The E-CFEG boasts a narrow energy spread that results in high contrast images. It joins the innovative Thermo Scientific Selectris and Selectris X imaging filters, which provide unique stability, ease of use and performance. It also accompanies the company's Falcon 4 camera direct electron detector, which generates images with high contrast and high signal-to-noise ratio as well as up to 10 times faster throughput than the previous generation. When integrated with the award-winning Thermo Scientific Krios Cryo-TEM, these solutions help advance cryo-EM discovery with industry-leading contrast, resolution, and speed.

"Today's biologists need high resolution cryo-EM data as quickly as possible to accelerate their drug discovery research," said Trisha Rice, vice president and general manager of life sciences at Thermo Fisher Scientific. "Our relentless technology innovation in the world of cryo-EM—including our Krios Cryo-TEM, Falcon 4, Selectris imaging filters, and now the E-CFEG—is fueling the focus on atomic resolution. Used together, our instruments allow customers to push microscopy to the next level. We call this, the power of four."

To learn more about the Thermo Scientific E-CFEG, visit <https://ter.li/hoglu>.

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